

**Richard Schoen****Solar Integrated Technologies**

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Richard Schoen's research, teaching, and professional work focuses on sustainable architecture and community planning, communication and diffusion of innovation and change in the US Building Industry and its design professions, and the development of new products – particularly solar photovoltaics for the built environment. His publications include co-authorship of *New Energy Technology for Buildings, Institutional Problems and Solutions*, for the Ford Foundation Energy Policy Project, and 22 other papers.

In 1978, he created the *ARCO Solarelectric Batten and Seam Roof* - described by the Jet Propulsion Laboratory as "the world's first architecturally - integrated photovoltaic roof system". His project, the 60KW solar photovoltaically powered space-frame parking shade structure at the Jeddah Airport in Saudi Arabia, won an AIA/LA Bi-Annual Design Award for most outstanding government building. He is working on follow-on production models of that project, as electric vehicle shade and solar-charging station structures and for distributed photovoltaic power generation. Other projects include the headquarters offices and plant for ARCO Solar Industries, a residence and a standalone desert research laboratory constructed of shotcreted building panels. His 62-foot rail-flatcar bridge - fabricated entirely from recycled materials, won the first architectural award in the International Design Resource Awards competition.

He created and taught for over a decade, the three quarter *Introduction to Sustainable Architecture and Community Planning* course sequence (culminating in an applications design studio focusing on real projects) in the UCLA Department of Architecture and Urban Design. Now, as an emeritus professor in architectural research, he currently offers a one-quarter version of that original introductory sequence, under the auspices of the UCLA Institute of the Environment.

Two years ago, Schoen joined the Building Integrated Photovoltaics (BIPV) Division of ECD Solar Systems LLC makers of the UNI-SOLAR flexible amorphous silicon module product line, as Director of BIPV (Building Integrated Photovoltaics). He worked on architectural project development, assisting architects and their clients in the understanding, design, and installation of

photovoltaic systems within the context of sustainable architecture. That was a part of a focused effort to commercialize UNI-SOLAR's current, technically much more advanced version of that solar electric roof he developed twenty-five years ago.

He has since moved to Solar Integrated Technologies, sister firm to the 76-year-old Southern California Roofing Company - the largest roofing company in California, with a 45,000-customer base. SIT has the experience and technical know-how of roofs - something that has long been missing in the solar field.

Schoen continues to participate in further development and commercialization of BIPV product lines within SIT, including introduction of the SR 2001 that fuses the UNI-SOLAR amorphous PV module to Sarnafil single ply roofing membrane, along with a proprietary framed integration of the high power BP Solar line, as well as solar canopies designed combine several SR2001 panels into a free-standing canopy for shading and powering disaster relief sites, military tents, field hospitals, 3<sup>rd</sup> world market places, and the Stuart Energy Electrolyzer, thus making hydrogen to in turn fuel the Toyota FCHV or Fuel Cell Hydrogen Vehicle.

Schoen is a member of the Executive Committees of the UCLA Institute of the Environment and the Los Angeles Chapter of the US Green Building Council. He is participating on the Marketing, Communication, and Education Task Team of Governor Schwarzenegger's Hydrogen Highway Blueprint Team and represents SIT at the California Hydrogen Business Council and the National Hydrogen Association. He is a Fellow of the American Institute of Architects, founding co-chair of the AIA-LA Committee on the Environment, and is presently active at both local and national levels of the USGBC - developer and manager of the *LEED<sup>TM</sup> Environmental Performance System for Buildings*.